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Docket No. 728256-100281

PATENT SPECIFICATION

884,212



Inventor: SYE-YUEN CHUNG

Date of filing Complete Specification: October 21, 1960

Application Date: October 28, 1959.

No. 36626/59

Complete Specification Published: December 13, 1961

Index at Acceptance:—Classes 39(2), E1; and 64(2), T13.

International Classification:—F21b, G01k.

ERRATA

SPECIFICATION NO. 884,212

Page 1, Heading, Inventor
for "SYE-YUEN CHUNG"
read "SZE-YUEN CHUNG"

Page 1, Index at Acceptance, for "6 4" read "64"

Page 1, line 19, for "duct" read "duce"

Page 1, line 29, after "through" insert "a"

Page 2, line 12, for "menner" read "manner"

Page 2, line 33, for "number" read "member"

Page 2, line 89, for "King" read "Kong"

Page 2, line 105, after "emit" insert "both"

THE PATENT OFFICE,
18th June, 1962

DS 64984/1(5)/R.109 200 6/62 PL

ERRATUM

SPECIFICATION NO. 884,212

Page 1, in the heading Inventor, for "Sye-Yuen Chung" read "Sze-Yuen Chung"

THE PATENT OFFICE,
1st February, 1962

DS 60473/1(24)/R.153 200 1/62 PL

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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

DRAWINGS ATTACHED

Improvements in or relating to Electric Torches

WE, V. K. SONG & CO. LTD., a Company incorporated in Hong Kong under the Companies Ordinance, of 2 Ma Hang Chung Road, Kowloon, Hong Kong, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The present invention relates to an improved form of torch which is designed so as to give alternatively a steady light or an intermittent blinking light.

15 The incorporation of a bi-metal element in a bulb for intermittently interrupting the circuit through the bulb is well known for the purpose of providing a blinking light. However such bulbs cannot be used to produce a steady light.

20 It is the object of the present invention to provide a torch which can emit both a steady light and a blinking light from an ordinary torch bulb.

25 This problem is solved in a very simple way according to the present invention by providing a torch equipped with a conventional bulb and having a three-position switch, in one position of which the circuit through the bulb is completed through blinker device so as to interrupt intermittently the circuit through the bulb and in another position of the switch the circuit through the bulb is completed without such device. The blinker device is preferably held in a butt-end cap of the torch.

35 In this position it is obscured from view and is protected from damage. The blinker element itself is preferably in the form of a bi-metallic strip housed in an evacuated enclosure in the manner of an ordinary torch bulb and is held in an ordinary bulb holder which is clamped in position when the end is screwed onto the torch.

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One form of torch made in accordance with

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the present invention is hereinafter described with reference to the accompanying drawings 45 wherein

Fig. 1 is a longitudinal partial section of a torch made in accordance with the invention.

Fig. 2 is a section on a large scale of the 50 blinker device.

In Fig. 1 the upper half of the figure shows a torch equipped with a plastic reflector and the lower half of the figure shows a modified form with a metallic reflector. In both 55 constructions the blinker device is constructed as shown in Fig. 2.

The bulb holder 1 at the forward end of the torch may be supported either in a metallic reflector 2 or in a reflector 3 made of non-conductive plastic material. In the 60 first instance the reflector 2 is in electrical connection with the metallic torch case 4. Where the reflector is made of a non-conductive material, as at 3, however, the 65 bulb holder 1 is made integral with a laterally extending plate 5, which is positioned so as to be contacted by a forward extension 6 of a switch contact strip 7, which slides on the 70 outer surface of the contact plate 5 so as to complete the circuit through a bulb in the holder in at least the two forward positions of the switch contact strip 7, which has three operative positions determined by the 75 inter engagement of an indentation 8 on the contact strip 7 with a pair of indentations 9 on the torch case 4.

The switch in the construction in the lower half of Fig. 1 functions in exactly the same manner, except that there is no forward 80 extension 6, which would be superfluous in that construction.

The blinker mechanism is housed within a butt-end cap 10 made of insulating material which is screwed onto the bottom end of 85 the torch case 4. The blinker mechanism has

two stationary contacts 11 and 12 to co-operate with the switch contact strip 7.

The butt end cap 10 has an internal annular wall 14 which defines a recess in which a bimetallic blinker element 15 is located. Resting on the end of the annular wall 14 is a metal bulb holder 16 having the usual threaded socket to receive the base of the blinker element 15, the holder thus being in contact with one of the two contacts of the blinker element in the conventional manner. The bulb holder 16 is completed by a flat portion 17 which rests on the end of the annular wall 14 of the butt-end and is bounded by a circular flange, which serves as the contact 12. The bulb holder 16 is held in a spacer 18 made from an insulating material (preferably a rigid plastic). The spacer preferably has a peg 19 which projects through the flat portion 17 of the bulb holder into a recess 20 in the annular wall 14 of the butt-end cap so as to hold the bulb holder 16 against turning. A second contact member 21 is secured on the outside of the cylindrical portion of the spacer 18 and has a flat portion resting on the top of a flat portion of the spacer and has a circular outer flange which acts as the contact 11 to co-operate with the switch contact strip 7 in its third position. It also has a spring contact 22 for contacting the axial contact of the blinker element 15. Contact of the number 21 with the battery cells 23 is effected in the usual way by means of a coil spring 24.

In its middle position the contact strip 7 is in contact with the contact 12 to make a circuit through the blinker element 15. When the contact strip 7 completes a circuit through the blinker element 15, it follows that the circuit through a conventional bulb in the holder 1 at the front end of the torch case is intermittently interrupted so that it emits a blinking light. On the other hand when the contact strip 7 is moved forward so as to contact the contact 11, a constant

circuit is completed through the ordinary bulb and a steady light is emitted.

WHAT WE CLAIM IS:—

1. A torch equipped with a conventional bulb and having a three-position switch, in one position of which a circuit is completed through the bulb and through a blinker device in series therewith so as to interrupt intermittently the circuit through the bulb and in another position of which a circuit is completed through said bulb without said blinker device in series.

2. A torch according to claim 1 wherein the blinker device is connected between a pair of spaced contacts, one of said contacts being adapted to be in permanent connection with a battery cell, said spaced contacts being contacted alternatively by a contact of said switch in said two positions.

3. A torch according to claim 1 or 2 wherein the blinker device is housed in a butt-end cap releasably secured to the torch case at the opposite end from the bulb.

4. A torch according to claim 2 including an insulated butt-end cap; a first contact member supported by said butt-end cap and having an annular flange to be contacted by a sliding switch contact in one position, a second contact member separated from said first contact member by an insulating spacer and having an annular flange to be contacted by a sliding switch contact in another position, a blinker device electrically connected between said contact members and means connecting said second contact member with a battery cell.

5. A torch equipped with means for alternatively providing a steady light or an intermittent light constructed and adapted to operate substantially as herein described with reference to the accompanying drawings.

STEVENS, LANGNER, PARRY
& ROLLINSON,
Chartered Patent Agents,
Agents for the Applicants.

PROVISIONAL SPECIFICATION

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The present invention relates to an improved form of torch which is designed so as to give alternatively a steady light or an intermittent blinking light.

The incorporation of a bi-metal element in a bulb for intermittently interrupting the circuit through the bulb is well known for the purpose of providing a blinking light. However such bulbs cannot be used to pro-

duce a steady light.

It is the object of the present invention to provide a torch which can emit a steady light and a blinking light from an ordinary torch bulb.

The present invention meets this problem in a very simple way by providing a torch equipped with a conventional bulb and having a three-position switch, in one position of which the circuit through the bulb is completed through a blinker device so as to interrupt intermittently the circuit through the bulb and in another position of the switch the circuit through the bulb is completed without such device. The blinker device is

preferably held in a butt-end cap of the torch. In this position it is obscured from view and is protected from damage. The blinker element itself is in the form of a bi-metallic strip housed in an evacuated enclosure in the manner of an ordinary torch bulb and is held in an ordinary holder which is clamped in position when the end cap is screwed onto the torch.

10 The torch of the present invention has a conventional sliding type of switch, which in the present instance has three defined positions. The switch button has connected to it a contact strip which is longitudinally movable close to the side of the torch. It co-operates with two separate circular stationary contacts in its operative positions.

The two stationary contacts form part of the blinker mechanism housed in the butt-end cap, inside which is a recess bounded by an annular wall. This recess is adapted to receive the blinker element. Resting on the end of the annular wall is a metal bulb holder having the usual threaded socket to receive the base of the blinker element, the holder thus being in contact with one of the two contacts of the blinker element in the conventional manner. The bulb holder for the blinker element is completed by a flat portion which rests on the end of the annular wall of the base cap bounded by a circular flange, which acts as a contact for the switch contact strip in one of its positions. The bulb holder is located by a cylindrical portion of a spacer made from an insulating material (preferably a rigid plastic). This spacer preferably has a flat portion resting on the top of the flat portion of the bulb holder and has a peg which projects through the flat portion of the bulb holder into a recess in the annular wall of the butt-end cap so as to hold the bulb holder, in which the blinker element is held, against turning. A second contact plate is mounted on the outside of the cylindrical portion of the spacer and thus to hold this contact against movement. It has a flat portion resting on the top of a flat portion of the spacer and

has a circular outer flange to co-operate with the switch contact strip in its third position. It also has a spring contact for contacting the axial contact of the blinker element. Contact with the battery calls is effected in the usual way by means of a coil spring arranged between the flat portion of the second contact and the bottom end plate of the adjacent cell.

In its middle position a circuit is made through the switch contact strip to the contact flange of the bulb holder, through the blinker element to the second contact plate and through it to the cell. When the contact strip makes contact with the battery through the blinker element, it follows that the circuit through the ordinary bulb at the front end of the torch case is intermittently interrupted so that it emits a blinking light. On the other hand when the contact strip is moved forward so as to contact the flange of the second contact plate, a constant circuit is completed through the ordinary bulb and a steady light is emitted.

The bulb holder at the forward end of the torch may be supported either in a metallic reflector or in a reflector made of an insulating material, such as plastic. In the first instance the circuit is completed through the reflector and the torch case itself in a conventional manner. Where the reflector is made of a non-conductive material however the bulb holder at the forward end of the torch is made integral with a laterally extending contact plate of a somewhat similar shape to that used in conjunction with the blinker device at the butt end of the torch. This is positioned so as to be contacted by a forward extension of the switch contact strip, which slides on its outer surface so as to complete the circuit through the ordinary bulb in at least the two forward positions of the switch.

STEVENS, LANGNER, PARRY
& ROLLINSON,
Chartered Patent Agents,
Agents for the Applicants.

Fig. 1.

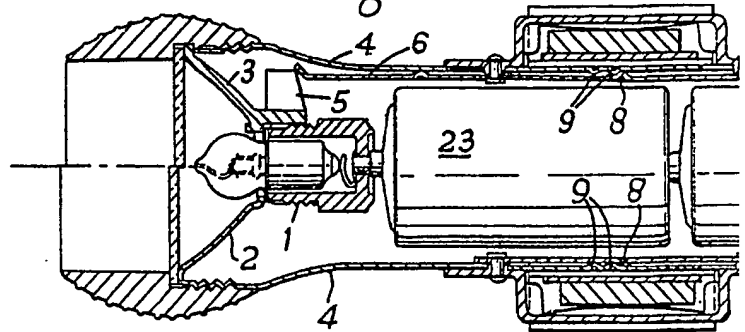
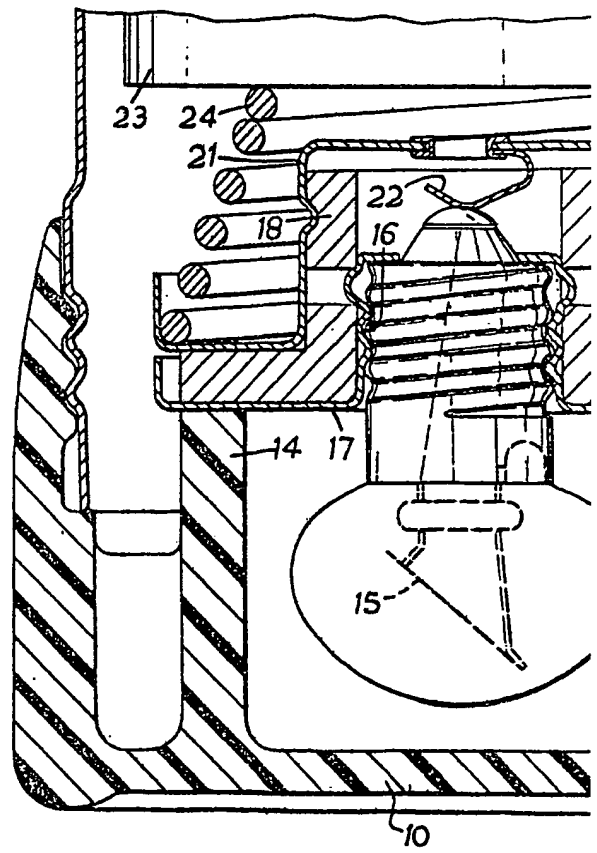


Fig. 2.



884,212 . COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale.*

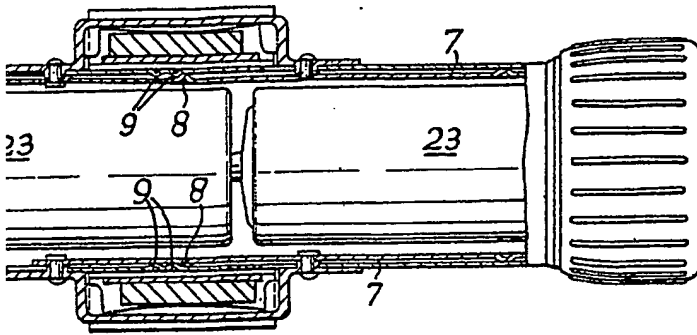
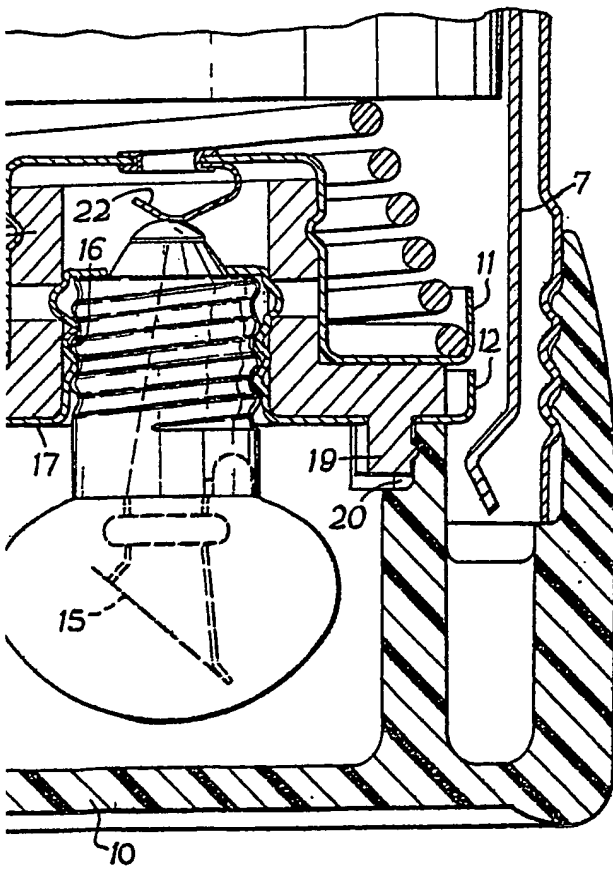


Fig. 2.



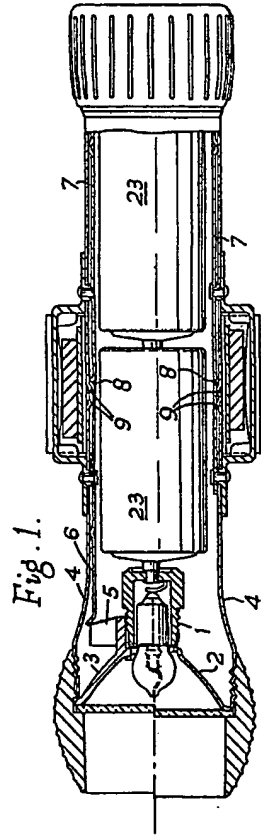


Fig. 2.

